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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,226	11/25/2003	Yasushi Nishimori	0757-0280P	4350
2292	7590	06/20/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			LOBO, IAN J	
			ART UNIT	PAPER NUMBER
			3662	

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/720,226	<b>Applicant(s)</b> NISHIMORI ET AL.	
	<b>Examiner</b> Ian J. Lobo	<b>Art Unit</b> 3662	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2006 and 29 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-16 is/are pending in the application.
- 4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/29/05</u> . | 6) <input type="checkbox"/> Other: _____  |

***Election/Restrictions***

1. Applicant's election with traverse of claims 1-9, 11 and 12 in the reply filed on April 20, 2006 is acknowledged. The traversal is on the ground(s) that submit that the examiner has failed to establish a prima facie case of "restrictability", and fails to provide any evidence for the allegation that the inventions are mutually exclusive. Further applicants argue that there would be no serious burden to examine the claims from Group 1 and Group 11 together. This is not found persuasive because it is argued that the two inventions which are drawn to an ultrasonic transmitter and a method for controlling the transmission of an ultrasonic signal are mutually exclusive inventions by the very content of the claim language. Further, the search and examination in the two different search classes/subclasses is a serious burden on the examiner.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Objections***

2. Claim 1 is objected to because on line 3, after "associated with", the word "a" should be inserted. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller ('671) or Cole et al ('033) when taken in view of Hossack et al ('228).

Cole et al discloses a method for controlling the transmission of an ultrasonic signal from a transducer array and an ultrasonic transmitter. The transmitter includes a transducer having a plurality of transducer elements (T-111 – T-114), and a transmitting beamformer (T-50) for providing commands to generate carrier drive signals. Note that the transmit beamformer generates a control signal for each channel.

Miller discloses a method for controlling the transmission of an ultrasonic signal from a transducer array and an ultrasonic transmitter. The transmitter includes an ultrasonic transmitter which includes a transducer (2) having a plurality of transducer elements (34), and a transmitting beamformer (8) for providing commands to generate carrier drive signals. Note that the transmit beamformer generates a control signal for each channel.

The difference between claim 1 and the Miller or Cole et al transmitters is the claim specifies “controlling pulse durations of a reference signal”.

Hossack et al discloses an ultrasonic imaging system that includes a transducer and a transmitting beamformer. On col. 13, lines 52-65, it is suggested that the transmit waveforms be pulse width (duration) modulated where the duration of each pulse within the burst is selected to reduce the energy transmitted at harmonic frequencies.

Therefore, in view of Hossack et al, it would be obvious to one of ordinary skill in the art to modify either Miller or Cole et al to control pulse widths (durations) of a reference

signal to generate the carrier drive signal so as to reduce harmonic frequency transmissions. Claim 1 is so rejected.

Dependent claims 2-9, 11 and 12 are further provided by the combination of the above noted prior art.

### ***Response to Arguments***

5. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments, filed December 29, 2005, with respect to the 35 USC 112, first paragraph rejection have been fully considered and are persuasive.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian J. Lobo whose telephone number is (571) 272-6974. The examiner can normally be reached on Monday - Friday, 6:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3662

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Ian J. Lobo", is positioned above the printed name and title.

Ian J. Lobo  
Primary Examiner  
Art Unit 3662